

MAMMOMAT 1000/3000/3000 Nova - Opdima®

SP

Maintenance Instructions

The maintenance protocol
SPB7-230.105.03.04.02
is required for this instruction

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Chapter	Page	Revision
All	All	04

Document revision level

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1 General information

1.1 Training

- Training workshop or at least 1 installation

1.2 Required documents

- Instructions for Use MAMMOMAT 1000/3000 Nova SPB7-230.201...
- Supplement to the Instructions for Use MAMMOMAT 3000-
Opdima® (Included in the Opdima® delivery) SPB7-230.203.13...
- MAMMOMAT 1000/ 3000/ 3000 Nova - Opdima® SPB7-230.061.11 ...
Service Instructions
(Included in the Opdima® delivery)

1.3 Required tools, measurement and auxiliary devices

NOTICE

All tools, measurement and auxiliary devices listed, with the exception of those marked with " * ", are specified in the STC (Service Tools Catalogue).

- Protective ground wire tester (44 15 899 RV090)
- Stereo calibration phantom (included in the Opdima® delivery) (part No. 64 30 701)
- Acrylic plastic (PMMA = Poly-methyl-met-acrylate) plates:
3 plates of AEC calibration plexiglas 150 mm x 150 mm x 19 mm (part No. 65 61 232) and
one plate calibration plexiglas, 150 mm x 150 mm x 9,7 mm (part No. 65 61 224)
- Grid object table
- Mammography bar pattern (5-20 lp/mm),
for instance Nuclear Associates Resolution Test Pattern (07-555), <http://www.nucl.com>
- Cleaning agents* specified in *Instructions for Use MAMMOMAT 1000/3000 Nova*,
chapter *Cleaning, Disinfection*
- Standard service tools*

1.4 Text emphasis



"WARNINGS" are information provided with special emphasis when there is the potential for personal injury to the operator or patient.



"CAUTIONs" are information provided with special emphasis when there is the potential for damage to the equipment.



"NOTICES" are information provided with special emphasis to facilitate proper use of the equipment or proper execution of a procedure.

1.5 Safety Information and Preventive Measures



- When completing repair work and tests, please note:
 - the product-specific safety information in the document
 - the safety information in RA0-000.012.40...
- Tests or adjustments that must be made with radiation are identified with the radiation warning symbol ☸.
During these types of adjustments, radiation protective clothing must be worn.

2 System Status

2.1 Checks

Check the system status and fill in the Maintenance Protocol.

- Check the serial No. and the part No. for the workstation, the CCD camera and the biopsy controller.
- Check the licence key (Dicom option).
- For instructions how to check the `hostname/hostid` see *Service Instructions for Opdima®*, chapter *Instruction for obtaining the systems host ID and hostname*.
- Document country settings in the Maintenance Protocol.
- If applicable, document network and printer parameters in the Maintenance Protocol.

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3 System

3.1 Checks

PMP MO storage media and MO unit

The MO disks shall be handled with care. They shall never be forced into or out of the drive. They shall not be exposed to heat or fluids. Never put heavy objects on an MO disk. The MO drive unit is relatively sensitive to dust.

- Check that the unit is installed in a clean environment and is not exposed to dust.
- Check that right MO media is used. Only Sony standard media (Siemens part No. 66 33 734, Sony RMO-S561, 9.1 GB rewritable) shall be used as MO media.
- Check that the MO disks are stored in a clean and safe place.
- Check that the local disks and backup disks are properly labeled.
- Check that backup disks are stored separately.
- The MO disks used in the Opdima® system are equipped with an mechanical write protection lock. This lock shall NEVER be used since the Opdima® system always attempts to mount the MO disk as a read/write device.

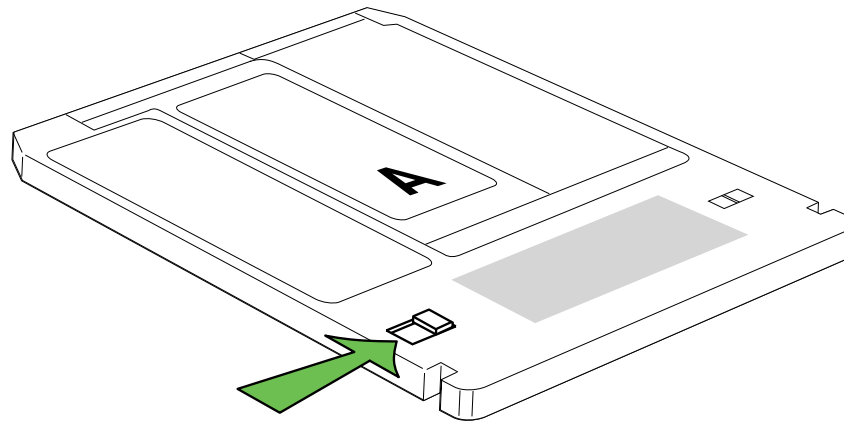


Fig. 1 Write protection lock not activated

PMP Scsi cables, cd-rom

It is important to check that the SCSI cables are properly connected and the hardware is right terminated. If not, this might generate a lot of problems e.g. failure to write images to MO disk, corrupted MO disk, corrupted hard disk.

- Make sure the SCSI cabling is properly connected, and fixed, to the units and that the cable is not bent too much just behind the MO.
- The MO drive shall be terminated with the external termination plug.

If the system not have been able to store images on the MO disk due to above problem, it will take longer to save images when the system can save.

CAUTION

It is important not to interrupt the system when it is saving images on the MO disk, the MO disk can be destroyed.

PMP Cables general

- Check connectors and cables between biopsy controller and CCD camera.
- Check connectors and cables between biopsy controller and workstation.
- Check that all cables are free from damages, especially monitor cables.
- Check that connectors are properly fixed.

SW Disk cache settings

For instructions how to check the disk cache settings see *Service Instructions for Opdima®*, chapter *Disk cache settings*.

SI Biopsy unit

This unit contains the following safety-relevant parts, which should be checked every year and, if required, replaced:

- Biopsy unit connectors (25 pin DSUB connector and 9-pin object table connector). Visual inspection.
- Sliding pads on the underside of the biopsy unit object table. Check that the sliding pads are free from visual damages and that the biopsy unit object table runs smoothly on the base plate.
- Check that the biopsy unit is safely locked to the MAMMOMAT.

4 Testing

4.1 Test

PMF Test of units

For instructions how to test the units see *Service Instructions for Opdima®*, chapter *Test of units*.

4.2 Calibrations

PMF CCD-Camera calibration

For instructions how to calibrate the CCD-Camera see *Service Instructions for Opdima®*, chapter *CCD camera calibration and maintenance*.

Q Calibration of the biopsy unit

- Check biopsy accuracy according to *Service Instructions for Opdima®*, chapter *Verifying the calibration of the biopsy unit*. Verify the calibration for all four target points of the stereo calibration phantom.
- If biopsy accuracy is not satisfactory, perform calibration according to *Service Instructions for Opdima®*, chapter *Calibration of the biopsy unit*.

4.3 Checks

QIQ Opdima® AEC

For instructions how to check Opdima® AEC see *Service Instructions for Opdima®*, chapter *Check of Opdima AEC*.

QIQ Resolution

For instructions how to check resolution see *Service Instructions for Opdima®*, chapter *Check of resolution*.

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5 Miscellaneous

5.1 Checks

PMF Cassette locking

- Check that the camera used is properly locked to the object tables.

PMA UI's and SPEED Infos

- Check whether all relevant UI's and SPEED Infos have been completed.
- Check that the customer performs backup regularly.

5.2 Final tests

SIE Protective conductor test

- Perform the protective conductor test according to ARTD-002.731.17...

PMP Cleaning / Damaged paint

- Clean the unit using the materials recommended in *Instructions for use for MAMMOMAT 1000/3000 Nova* (chapter *Cleaning, Disinfection*) and repair any damaged paint.
- System ON.

QSQ Final test exposure



Take one final test exposure.

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